



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/534,934

09/13/2005

Thomas Deck

40124/05001

3644

30636 7590 01/29/2009  
FAY KAPLUN & MARCIN, LLP  
150 BROADWAY, SUITE 702  
NEW YORK, NY 10038

EXAMINER

DANG, HUNG Q

ART UNIT

PAPER NUMBER

2612

MAIL DATE

DELIVERY MODE

01/29/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,934	<b>Applicant(s)</b> DECK ET AL.	
	<b>Examiner</b> HUNG Q. DANG	<b>Art Unit</b> 2612	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 47, 48 and 51-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 47, 48 and 51-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                            | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This communication is in response to application's amendment dated 10/3/2008. The cancellation of claims 1-46, 49-50 and the amendment of claim 47 have been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 47 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

To be specific, claim 47 recites "a measured signal receiver registering a measured signal, which is a **propagation time signal**". Neither the specification nor the claim provides a starting time reference and how the fluid level can be determined from simply registering said propagation time signal.

### ***Response to Arguments***

4. Applicant's arguments filed on 10/3/2008 have been fully considered but they are not persuasive.

Regarding the Applicant's argument on page 7, the Applicant asserts that Bennett specifically teaches a passive sensor, which does not process a propagation

time signal and that it would not have been obvious to one of ordinary skill in the art to combine the device of Bennett, which includes a passive sensor, with the device of Michalski to include an active sensor such as a radar signal, an ultrasound signal or a guided microwave signal.

The Examiner still maintains that replacing a passive fill level sensing system with an active fill level sensing system would still be obvious to one of ordinary skill in the art since both passive and active fill level sensing systems have been very well known in the art.

Regarding the Applicant's 2<sup>nd</sup> argument on page 8, the Applicant asserts that neither Bennet nor Michalski, either alone or in combination show or suggest "that the measured signal is digitized and subsequently transmitted without signal processing after the A/D conversion, via the transceiver device, to the environmental device, the environmental device being coupled to an analysis unit which converts the measured signal into a measured value.

The above recited limitation simply concerns remote data processing rather than local data processing. The Examiner's position regarding the above argument is that with local data processing, more hardware would be locally required in order to process acquired data; similarly, with remote data processing, more hardware would be remotely required to process acquired data, however desired. Therefore, it would have been obvious to one of ordinary skill in the art to provide remote data processing to the system disclosed by Bennet in view of Michalski, as desired.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 47, 48, 51, 53-56, 58 and 60-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett JR et al. U.S. 2001/0028305 in view of Michalski et al. U.S. Pub. 2004/0074295.

**Regarding claims 47**, Bennett JR et al. teaches a sensor unit, comprising:

A measured signal receiver (figure 3, units 60 and 60');  
an A/D converter (Figure 3, unit 64) digitizing a measured signal;  
a transceiver device (Figure 3, unit 24) wirelessly transmitting data to an environmental device; and  
a processor (Figure 3, unit 68) activating the measured signal receiver, the A/D converter, and the transceiver device, the processor digitizing the measured signal and subsequently transmitting without signal processing after the A/D conversion, via the transceiver device, to the environmental device (Figure 1, unit 28), the environmental device being coupled to an analysis unit (Figure 1, unit 30) which converts the measured signal into a measured value (paragraph [0022]). (Also, see the above

response to argument for explanation of the claimed limitation "...without signal processing");

wherein the sensor is a fill level sensor (paragraph [0022]).

Even though, Bennett JR et al. does not specifically discloses a measured signal receiver registering (or recording) a measured signal, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a measured signal receiver for registering or recording a measured signal to the sensor unit disclosed by Bennett et al. so that measured data can be recorded and stored up for possible future re-transmission.

Further regarding the above recited limitation "the processor digitizing the measured signal and subsequently transmitting without signal processing after the A/D conversion ....", which simply concerns remote data processing rather than local data processing. The Examiner's position regarding the above argument is that with local data processing, more hardware would be locally required in order to process acquired data; similarly, with remote data processing, more hardware would be remotely required to process acquired data, however desired. Therefore, it would have been obvious to one of ordinary skill in the art to provide remote data processing to the system disclosed by Bennet in view of Michalski, as desired.

However, Bennett JR et al. does not specifically teach wherein the measured signal receiver transmits and receives one of a radar signal, an ultrasound signal and a guided microwave signal.

Michalski et al., in the same field of endeavor, teaches a sensor unit, wherein the sensor is also a fill level sensor; and wherein the measured signal receiver transmits and receives one of an ultrasound signal or a guided microwave signal, which is a propagation time signal (paragraph [0012]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide either an ultrasound signal or a microwave signal transmission as a measured signal for the fill level sensor disclosed by Bennett JR et al., as suggested by Michalski et al., so that the fill level sensor measured signal can be transmitted/received.

**Regarding claim 48**, the input/output components claimed in claim 48 are obviously suggested based on the rejection of claim 47 stated above (see figure 3).

**Regarding claim 51**, Michalski et al. also teaches that measured signal is a propagation time signal (paragraph [0014]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a propagation time signal as a measured signal of the fill level sensor disclosed by Bennett JR et al. in view of Michalski et al. to determine the fill level of fill material in a container.

**Regarding claims 54-55 and 60**, Bennett JR et al. teaches coupling the environmental device (Figure 1, unit 28) with a process control system (Figure 1, unit 30; and paragraph [0023]), without specifically indicating wire or wireless coupling.

The examiner takes official notice that wire/wireless coupling/connecting two devices have been commonly known and equipped in many communication systems.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide wire or wireless coupling or connection between the environmental device and the process control system disclosed by Bennett JR et al.

**Regarding claims 58 and 62**, even though, Bennett JR et al. only disclose one environmental device including a control and a display unit (see paragraph [0022]), however, it would have been obvious to one of ordinary skill in the art to further provide another environmental device so that the sensed data can be transmitted to another location/user for data processing.

**Regarding claim 64**, similar as the reason stated above, if the sensed parameter/status data is desired to be transmitted to another environmental device, then, obviously, said sensed parameter/status can also be transmitted to said further environmental device.

**Regarding claim 65**, even though Bennett JR et al. does not specifically teach that the analysis unit, a control and display unit are integrated into the environmental device, however, one of ordinary would recognize that such electronic components have been commonly integrated together in many electronic devices for the convenience of the operator. Also, the use of a one-piece construction instead of multiple separable pieces structure would be merely a matter of obvious engineering choice in design (see MPEP 2144.04 In re Larson design engineering choice and MPEP 2144.04 changes in size/proportion).

**Regarding claim 66**, even though Bennett JR et al. does not specifically mention an interface for a wire-bound data transmission, however, one of ordinary skill in the art



would recognize that interfaces for use with wire transmission have been commonly known and equipped in many electronic devices. Therefore, by conventionality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an interface for wire-bound data transmission to the sensor unit disclosed by Bennett JR et al. in view of Machalski et al.

**Regarding claims 53, 56 and 61**, the Examiner gives Official Notice that bidirectional communication between any two devices has been conventionally equipped in many control/communication systems for data transmission or control operations. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide bidirectional communications between any of the two devices disclosed by Bennett JR et al in view of Michalski et al.

**Claim 63** is rejected for the same reasons as the rejection of claim 52.

**Claims 67 and 69** are rejected for similar reasons as the rejection of claim 47. Even though, Bennett JR et al. does not specifically disclose a plurality of sensor units, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a plurality of sensor units (similar as the one claimed in claim 47) to the system disclosed by Bennett JR et al. so that a plurality of different parameters can be sensed and transmitted to a remote location for processing.

**Claim 68** is rejected for the same reasons as the rejection of claim 58.

7. Claims 52, 57 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett JR et al. U.S. 2001/0028305 in view Michalski et al. U.S. Pub. 2004/0074295 and in further view of Soliman U.S. Pub 2003/0174067.

**Regarding claim 52**, Bennett JR et al. in view of Michalski et al. teaches the sensor unit of claim 47. However, Bennett JR et al. in view of Michalski et al. does not specifically teach the wireless transmission of the data between the sensor unit and the environmental device using WLAN.

Soliman, in the same field of endeavor, discloses a wireless telemetry network, wherein a WLAN is employed between device-device transmission.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide WLAN for wireless transmission between the sensor unit and the environmental device disclosed by Bennett JR et al. in view of Michalski et al., as evidenced by Soliman, so that sensed data can be wirelessly transmitted to said environmental device.

**Regarding claims 57 and 59**, Bennett JR et al. in view of Michalski et al. teaches the sensor unit of claim 58. However, Bennett JR et al. in view of Michalski et al. does not teach said environmental device being a mobile device.

Soliman, in the same field of endeavor, teaches a wireless environmental telemetry network, wherein the environmental device is a mobile device (Figure 1, unit 140) so that said mobile device can be carried around.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the environmental device disclosed by Bennett

JR et al. in view of Michalki et al. to be a mobile device, as evidenced by Soliman, so that said environmental device can be carried around by the operator.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. DANG whose telephone number is (571)272-3069. The examiner can normally be reached on 9:30AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on (571) 272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/  
Examiner, Art Unit 2612

/Brian A Zimmerman/  
Supervisory Patent Examiner, Art Unit 2612